

27. A method of manufacturing a semiconductor device according to claim 25, wherein the light is a white light.

28. A method of manufacturing a semiconductor device according to claim 25, wherein the light is a UV light.--

REMARKS

By the above amendment, claim 9 has been amended so as to recite the features of the present invention in a more generic form, with new dependent claims 24 and 25 reciting the features previously recited in claim 9, and claims 26-28 reciting other features of the present invention corresponding to the features recited in other claims of this application.

The requirement for restriction to one of the inventions identified as invention I - claims 1-2, 9-11, 18-20, drawn to a method with use of a ratio of intensities, classified in class 438, subclass 8; invention II - claims 12-17, drawn to a method with use of an intensity, classified in class 438, subclass 8; and invention III - claims 5-6, 21-23, drawn to an apparatus, classified in class 156, subclass 345; such requirement is traversed as being improper, and reconsideration and withdrawal of the restriction requirement are respectfully requested.

The Examiner contends that inventions I, II and III are related as process and apparatus for its practice, referring to the requirements of MPEP §806.05(e) for showing distinctness, which are in terms of the process as claimed and the apparatus as claimed. The Examiner contends that the apparatus can be used for a different method such as polishing a bulk substrate without surface layers. This position by the Examiner is not understood in terms of the claimed invention. Turning to claim 1 of invention I, such claim recites a method of detecting an endpoint of polishing processing, wherein a film formed on a surface of a wafer

under polishing processing is irradiated with light. Claim 5 of invention III recites an apparatus for detecting an endpoint of polishing processing, wherein a film formed on a surface of wafer under polishing processing is irradiated with light. Thus, both the apparatus and method recite irradiation of light onto a film formed on a surface of the wafer under polishing processing and the Examiner's contention concerning "polishing a bulk substrate without surface layers" (emphasis added) does not relate to the process as claimed or the apparatus as claimed. Accordingly, the Examiner has failed to properly set forth distinctness in accordance with the requirements of MPEP §806.05(e), and this requirement should be withdrawn.

As to inventions I and II, applicants note that claim 9 indicated to be part of invention I and necessarily part of invention I, as represented by amended claim 9 and dependent claims 24 and 25, is contended to be different in that invention I uses a relationship between intensities to detect end point, and Group II uses an intensity to detect end point. Claim 9 has been amended to define use of an intensity to detect end point with dependent claims reciting the feature of a relationship between intensities to detect an end point and a ratio of intensities. Thus, claim 9 is a generic claim and part of invention I and coextensive with the features of invention II as represented by claim 12, for example. Additionally, while the Examiner contends that the inventions "have acquired a separate status in the art as shown by their different classification" (emphasis added), the Examiner has classified both invention I and invention II in class 438, subclass 8, so that the Examiner has recognized that the inventions have not acquired a separate status in the art, as recognized by their same classification. As such, the requirement for restriction between invention I and II is improper and should be withdrawn.

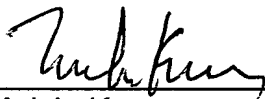
In order to provide a complete response to the election requirement, and in view of the fact that applicants submit that inventions I and II should be considered together since such claims are directed to a method of end point detection and at

least claim 9 of invention I is generic with respect to the features of claim 12 of invention II, such that at least claims 1-2, 9-20 and newly added claims 24-28 should be considered together, applicants provisionally elect, with traverse, invention I including claims 1-2, 9-11, 18-20 and 24-28.

In view of the above amendments and remarks, applicants submit that the requirement for restriction should be withdrawn and that all claims should be considered herein.

To the extent necessary, applicant's petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 01-2135 (500.39825X00) and please credit any excess fees to such deposit account.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Please amend claim 9 as follows:

9. (amended) A method of manufacturing a semiconductor device, comprising the steps of:
- forming a an insulating film on a surface of a wafer;
 - attaching the wafer having the insulating film formed on its surface to a polishing processing machine;
 - starting polishing processing of the wafer attached to the polishing processing machine;
 - concurrently irradiating the surface of said wafer under polishing processing with ~~lights~~ light having ~~two or more different wavelengths~~ predetermined characteristics;
 - detecting respective reflected lights from the insulating film on said wafer surface generated by the irradiation;
 - detecting an endpoint of polishing processing on the film on the basis of a ~~relationship between intensities~~ at least an intensity of the detected reflected lights;
 - stopping polishing processing of said wafer on which the endpoint is detected;
 - detaching the wafer whose polishing processing is stopped from said polishing processing machine; and
 - forming a new wiring pattern on said insulating film of the wafer detached from said polishing processing machine.

Please add the following new claims:

- 24. A method of manufacturing a semiconductor device according to claim 9, wherein the detecting an endpoint of polishing processing on the film on the basis

of at least an intensity of the detected reflected lights includes detecting on the basis of a relationship between intensities of the detected reflected lights.

25. A method of manufacturing a semiconductor device according to claim 24, wherein the light having predetermined characteristics includes light having two or more different wavelengths.

26. A method of manufacturing a semiconductor device according to claim 25, wherein the detecting an endpoint polishing processing is detected on the basis of an intensity ratio of the detected reflected lights.

27. A method of manufacturing a semiconductor device according to claim 25, wherein the light is a white light.

28. A method of manufacturing a semiconductor device according to claim 25, wherein the light is a UV light.--